

NOVELTIES IN THE LOBELIACEAE
HAWAIIAN PLANT STUDIES 136

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Cyanea hanaensis sp. nov. (sect. Delissoideae), Fig. 1.

Diagnosis Holotypi: Frutes est, petiolis 5.5-8 cm longis puberulis, laminis 25.5-33 X 7-11 cm chartaceis oblanceolatis acutis basi cuneata marginibus in apicibus veularum umbonatis infra adpresse puberulis, inflorescentia 8-10 cm longis 5-7-floris, pedunculo 14-18 mm longo puberulo, pedicellis 12-20 mm longis glabris, hypanthio 8-9 mm longo cylindrico, 5 lobis calycis 7-11 X 2-2.5 mm ligulatis obtusis, corollia 65 mm longis 5 lobis ligulatis subacutis, labia supera bilobata per 20 mm partita, labia infera trilobata per 27 mm partita, tubo filamentarum 45 mm longo glabro, 5 antheris glabris licet obscure subpurpureis eis superioris 12 mm longis illis inferioris 9 mm longis et in apice a setis 4 mm longis penicillatis.

Diagnosis of Holotype: Shrub; petioles 5.5-8 cm long, channeled above, appressed ascending puberulous; blades 25.5-33 X 7-11 cm, thick firm chartaceous, oblanceolate, acute, the base cuneate, the margins umbonate at the veinlet tips, above dark green, and umbonate on the veinlets, below appressed puberulous, below appressed puberulous, and densely so on the midrib, secondary veins 18-21 in each half, the lower ones ascending, the others arcuate ascending; inflorescence 8-10 cm long, 5-7-flowered; peduncle 14-18 mm long, sparsely puberulous; rhachis 7-9 mm long, glabrous; bracts 4-6 mm long, oblong lanceolate; pedicels 12-20 mm long, glabrous, dark purplish; 5 calyx lobes 7-11 X 2-2.5 mm, ligulate, obtuse, ascending; corolla 65 mm long, 6 mm in diameter at base and middle, glabrous, apparently blackish magenta, arcuate decurved, the 5 lobes ligulate, subacute; upper lip of 2 lobes cleft about 20 mm; lower lip of 3 lobes, cleft about 27 mm; filament tube 45 mm long, glabrous; 5 anthers glabrous, apparently dark purplish, the upper anthers 12 mm long, the lower anthers 9 mm long, penicillate at apex with white bristles 4 mm long; (fruit unknown).

Holotypus: Hawaiian Islands, east Maui Island, upper Hana Forest Reserve, on slopes of "Waihoi Crater," with Broussaisia, Coprosma, Metrosideros, Cheirodendron, etc., 4,000 ft alt., 22 Oct. 1972, Betsy Harrison 201 (BISH).

Discussion: Cyanea hanaensis is a member of the section Delissoideae, as is its closest relative, C. Mariana E. Wimm., of puu Kukui, west Maui, a species with the blades 47 X 12 cm, narrowly elliptic, below puberulous

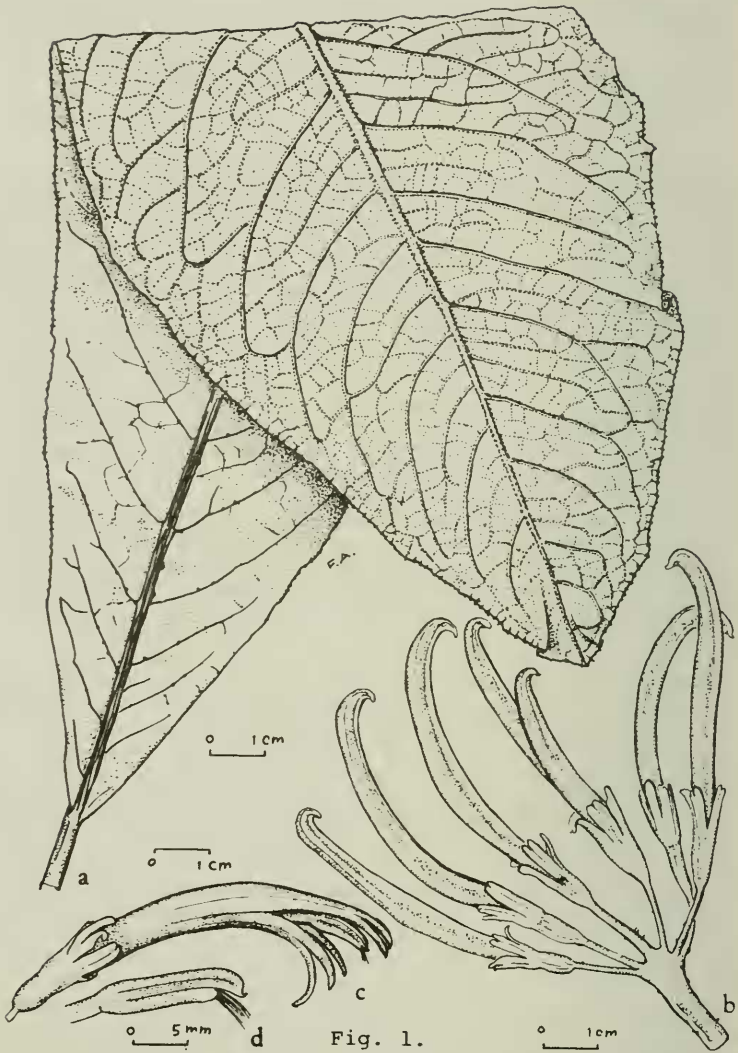


Fig. 1.

on veins and veinlets; peduncle 20 mm long, minutely tubercululate and sparsely hirtous; pedicels 17-25 mm long; calyx lobes 26-35 \times 7 mm, "sublinear;" corolla 75 \times 10 mm, the lobes muricate without; *C. hanaensis* has the blades 25.5-33 cm, oblanceolate, below appressed puberulous on the intervals and densely so on the midrib and secondaries; peduncle 14-18 mm long, sparsely puberulous; pedicels 12-20 mm long; calyx lobes 7-11 \times 2-2.8 mm, ligulate; corolla 65 \times 6 mm, the lobes glabrous.

The new epithet is formed from the place name Hana, and -ensis, the Latin adjectival place ending.

Cyanea Mariana E. Wimm., Engler's Pflanzenreich IV, 276b, 100: 57, 1956.

Lectotype: Hawaiian Islands, West Maui, Puu Kukui, in swamp, 4,500 ft alt., Aug. 16, 1933, M. Neal & C. Hartt (BISH). Lectotype here designated. Wimmer based his species upon two specimens, without designation of a holotype, so one of the two is here chosen as the lectotype.

Lobelia tortuosa Heller, var. *haupeensis*, var. nov.

Diagnosis: Holotypi: Frutex 10 cm altus ramosus est, ramis decumbentibus glabris, foliis 17-20 \times 1-1.3 cm chartaceis oblanceo-ligulatis glabris crenulatis, pedunculo 4-7 cm longo, pedicellis 6-9 mm longis, lobis calycis 0.5-1 mm longis deltoideis puberulis, corollis 20-22 mm longis puberulis, antheris inferis 8 mm longis penicillatis.

Diagnosis of Holotype: Shrub 20 cm tall, many branched; branches 4-6 mm in diameter, solid, decumbent at base, the tips assurgent, glabrous, smooth, brownish; internodes 6-12 mm long; nodes not enlarged; leaf scars 1-1.5 mm tall, concave convex. flush, stramineous; bundle scar solitary, central, hemispheric; leaves alternate, subsessile, 17-20 \times 1-1.3 cm, thick chartaceous, slightly oblance ligulate, the tip acute, the base long cuneate and decurrent, concolorous, glabrous, the margins crenulate; peduncle 4-7 cm long; racemes 6-9 cm long, 5 cm in diameter, dense; rhachis puberulous; pedicels 6-9 mm long, sinuous ascending, reddish, puberulous; hypanthium 2-2.5 mm tall, hemispheric, 5-angled, glabrous; 5 calyx lobes 0.5-1 mm long, narrowly deltoid, minutely puberulous; corolla 20-22 mm long, 1.5 mm in diameter at the middle, "pinkish red to purple," sparsely puberulous, slightly decurved, cleft 6 mm between the lobes, the 5 lobes 7 mm long, tapering, white margined; anthers 8 and 7 mm long, yellow, the lower ones penicillate with white bristles 1.3 mm long.

Holotypus: Hawaiian Islands, Kauai Island, Hoary Head Mts., Haupu, wet windy steep north facing slope, on exposed rock face associated species in relative abundance, Bidens, Hibiscus, Hedyotis, Artemisia, infrequent, 500 m alt., 3--VIII-19701 W. Gagne & S. Montgomery 570 (BISH).

Discussion: The new variety haupuensis is most closely related to Lobelia tortuosa Heller, var. tortuosa, of Hanapepe Valley, Kauai, a variety with the leaves 15 x 1.8 cm, somewhat pubescent above, densely soft puberulent below; pedicels 12 mm long; bracts subulate, tomentose; hypanthium shortly puberulent; and the corolla 36 mm long. The var. haupuensis has the leaves 17-20 x 1-1.3 cm, glabrous; pedicels 6-9 mm long; bracts 2-2.5 mm long, subulate, puberulous; hypanthium glabrous; and the corolla 20-22 mm long.

The new epithet is formed from the name of the type locality, Haupu, and -ensis, The Latin adjectival place suffix.

Legend

Fig. 1. Cyanea hanaensis St. John, from holotype. a, leaf; b, inflorescence; c, flower; d, anthers.